REMARKS

Claims 1, 6, 9, 11-20, and 40-42 are all the claims pending in the application. By this amendment, Applicant amends claims 6, 9, and 40-42.

Preliminary Matter

As a preliminary matter, Applicant respectfully requests the Examiner to acknowledge the change in the inventorship, which resulted from the cancellation of the non-elected claims. A Request to Correct Inventorship was filed on July 20, 2005.

Summary of the Office Action

Turning to the merits of the Office Action, claims 6, 9, and 41 are rejected under 35 U.S.C. § 101, claim 9 is rejected under 35 U.S.C. § 112, second paragraph, claims 1, 6, 9, 11-20, and 40-42 are rejected under 35 U.S.C. § 103(a).

Claim Rejections under 35 U.S.C. § 101

The Examiner rejected claim 6, 9, and 41 under 35 U.S.C. § 101. Applicant respectfully requests the Examiner to withdraw this rejection in view of the self-explanatory claim amendments being made herein.

Claim Rejections under 35 U.S.C. § 112, second paragraph

The Examiner rejected claim 9 under 35 U.S.C. § 112, second paragraph. Applicant respectfully thanks the Examiner for pointing out, with particularity, the aspects of the claim thought to be indefinite. Applicant respectfully requests the Examiner to withdraw this rejection in view of the self-explanatory claim amendment being made herein.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 1, 6, 9, 11, 40, and 41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,954,436 to Kageyama et al. (hereinafter "Kageyama") in view of U.S. Patent No. 6,065,397 to Sato (hereinafter "Sato"). Applicant respectfully traverses this rejection and respectfully requests the Examiner to reconsider this rejection in view of the comments, which follow.

The initial burden of establishing that a claimed invention is *prima facie* obvious rests on the USPTO. *In re Rikckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993). To make its *prima facie* case of obviousness, the USPTO must satisfy three requirements:

a) The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated to artisan to modify a reference or to combine references. *In re Thrif*, 298 F.3d 1357, 1363 (Fed. Cir. 2002).

b) The proposed modification of the prior art must have had a reasonable expectation of success, and that determined from the vantage point of the artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209 (Fed. Cir. 1991).

c) The prior art reference or combination of references must teach or suggest all the limitations of the claims. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991); *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

Applicant respectfully submits that the Office Action fails to satisfy the first and third prongs in establishing a *prima facie* case of obviousness.

To begin, there is no motivation to combine the references in the manner suggested by the Examiner. In particular, the Examiner alleges that one of ordinary skill in the art would have been motivated to combine Kageyama with Sato: a) to reduce powers and costs and b) to reduce image bleeding. Applicant respectfully disagrees for at least the following reasons.

With respect to reducing power and costs, Sato discloses that the paper feeding section 39 is unique in the following respects. In Sato, a stepping motor 100 is exclusively assigned to the pick-up roller 18 and drives it independently of the main motor 51. This drive system is different from the conventional sector gear type drive system driving the pick-up roller 18. In addition, a stepping motor 102 is exclusively assigned to the lower registration roller 16 and drives it independently of the main motor 51. This drive system is also different from the conventional sector gear type drive system driving the two registration rollers 15 and 16. The stepping motor 102 eliminates the need for a one-way clutch and other mechanical parts for braking the registration rollers 15 and 16 and regulating the direction of rotation of the same, and thereby reduces the cost. Further, with the stepping motor 102, it is possible to separate the registration roller driveline from the main motor 51 assigned to the ink drum 1 and the press drum 8. This not only reduces the load on the registration roller driveline, but also reduces power and therefore cost required of the main motor 51 (col. 8, lines 55 to 65).

The above noted advantages of Sato, however, relate to mechanical parts of the paper feeding section. However, it does not provide any motivation for including the features of Sato's print control unit 115. Indeed, if one of ordinary skill in the art would have been motivated to combine Sato with Kageyama as suggested by the Examiner, then the mechanical elements such

as stepping motors assigned to the registration rollers of the feeding section would have been somehow incorporated into the Kageyama's system and not the operations of the control unit. In other words, a rejection cannot be predicated on the mere identification of individual components of claimed limitations. *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Id.* MPEP § 2143.

Accordingly, Applicant respectfully submits that one of ordinary skill in the art would not have been motivated to combine the control unit of Sato with Kageyama to "reduce cost and power," at least because there is no disclosure that the control unit of Sato reduces cost and power.

With respect to the second motivation provided by the Examiner *i.e.*, adjusting the feed time to allow the ink to dry (*see* page 4 of the Office Action), Applicant respectfully submits that this motivation is a creature of impermissible hindsight. A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. *See In re Kotzab*, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (*citing In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999)). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its

teacher." *Kotzab,* 55 USPQ2d at 1316 (*quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)); MPEP § 2141.01 (III).

In the present case, Applicant's disclosure is used against the Applicant. The specification discloses in one of the exemplary embodiments that printing on the back surface is not started until the ink on the front surface is dried. Thereby, the degradation of the quality of the print by being rubbed by the roller or the like can be prevented (*see* page 62, lines 15 to 18 of the specification).

Neither Kageyama, nor Sato discloses adjusting the feed time to allow the ink to dry. On the contrary, Kageyama fails to disclose adjusting the feed time and Sato only discloses adjusting the feed time based on the thickness of the paper (cardboard versus regular paper). In other words, since both references fail to disclose or suggest adjusting the feed time to allow the ink to dry and since the Applicant's exemplary embodiment of the present invention discloses adjusting the feed time based on the ink, the Examiner's second motivation for combining the references is a creature of an impermissible hindsight. But for the knowledge disclosed by Applicant in the present application, the Examiner and one of ordinary skill in the art would not have ever thought to combine the references in the manner suggested by the Examiner. Since the only stated motivation is drawn from Applicant's own teachings, the obviousness rejection is respectfully submitted to be improper.

Accordingly, Applicant respectfully submits that the Office Action fails to meet the first prong in establishing a *prima facie* case of obviousness.

Moreover, it is Applicant's position that the Office Action does not meet the third prong in establishing a *prima facie* case of obviousness. That is, the combined teachings of Kageyama and Sato do not teach or suggest at least some of the unique features of the claims, as discussed in greater detail below.

Of the rejected claims, only claims 1, 6, and 11 are independent. This response focuses initially on the independent claim 1. Claim 1, among a number of unique features recites, "command generating means for generating a feed command for correcting timing of feeding the printing medium when said mode designation receiving means receives the designation of double-side printing mode, for printing a second image that is to be printed later out of a pair of images to be printed on both surfaces of said printing medium." The Examiner alleges that claim 1 is directed to a printer control unit and is obvious in view of the combined teachings of Kageyama and Sato. Specifically, the Examiner alleges that Kageyama discloses the command generating means as set forth in claim 1. The Examiner, however, acknowledges that Kageyama fails to teach or suggest a command generating means for generating a feed command for correcting the feeding timing for the printing medium but alleges that Sato cures the deficient teachings of Kageyama (*see* page 4 of the Office Action). Applicant respectfully disagrees.

In the exemplary, non-limiting embodiment of the present invention, the timing in feeding the printing medias having images printed on the front surfaces is adjusted so that these printing medias are subject to a timing lag before arriving to the print head. Consequently, the accuracy of the registration of the printing medias with respect to the print head is improved, so that the image is printed at the proper position of the printing medium. In other words, in the

exemplary embodiment, extra time is allocated for feeding the printing medium when reverse side printing is performed. It will be appreciated that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the distinguishing aspects of the claims mentioned above.

Kageyama fails to expressly and implicitly teach or suggest a command generating means that generates a feed command for correcting the timing of feeding the printing medium when the mode is double-side printing mode. Kageyama discloses receiving the data which indicates formats of the right side and a reverse side of a sheet and drawing the right and the reverse side images on a memory according to the data. Next, Kageyama teaches printing the right side image on the right side of the sheet according to the right side format indicated by the data and detecting whether the formats of the right side and the reverse side are acceptable as double side printing. Finally, when the formats are acceptable as double side printing, the command is issued to print on the reverse side image on the reverse side of the sheet, and when formats are not acceptable as double side printing, printing the reverse image on another sheet (col. 2, lines 38 to 50).

In addition, Kageyama discloses that the printing apparatus is able to detect whether the drawn page is a first half page or a second half page and to start printing of the data of the first half page if the first half page is detected, whereas when the second half of the page is detected, the printing apparatus is set to a wait state. When a predetermined condition is detected, the wait state is released (col. 2, lines 53 to 68).

Kageyama, however, only discloses releasing the wait state when the printer engine reaches a maximum limit or the last page of a document is detected. Kageyama does not disclose or suggest correcting the feeding time. In Kageyama, the process is simply halted for a period of time (wait state). In addition, in Kageyama, the process is halted when half a page is printed not when the printing is to be performed on the reverse side of the recording medium. In Kageyama, there is no disclosure of the timing for feeding being corrected when the double-side printing mode is designated. That is, with respect to the double-side printing, Kageyama only discloses that if the printer engine is in a double-side printing mode, a single-side printing mode selecting command is issued to the printer-engine unit and the reverse-side printing flag is turned on (Fig 4; col. 30, lines 23 to 64). The wait state in Kageyama is unrelated to the reverse side printing. In Kageyama, the wait state is when the change of paper size, paper-supply unit, or paper-eject unit is detected. In other words, Kageyama does not teach or suggest prolonging the feeding time or shortening the feeding time based on the double sided mode.

In short, Kageyama is not related to a proper positioning of the printing medium having an image printed on one side of the medium. Kageyama discloses halting the process to change paper size, paper-supply unit, or paper-eject unit. That is, Kageyama fails to disclose or suggest correcting the feeding time for the second image when the mode is double-side printing.

Sato fails to cure the deficient teachings of Kageyama. In Sato, the printer control unit 115 executes the following functions:

> (1) in response to the output signal of the photosensor 104, the printer control unit 115 controls the stepping motor 100 in order to feed the leading edge of the paper 13 toward the registration rollers 15 and 16;

> (2) when the paper 13 is a plain paper, the printer control unit 115 controls, in response to the output signal of the photosensor 107, the stepping motor 102 such that the leading edge of the paper 13 is driven at the same time as the paper clamper 14 reaches its paper clamp position;
>
> (3) when the paper 13 is implemented as a thick paper, the printer control unit 115 plays the role of control means for feeding the leading edge of the paper 13 to a position where the leading edge will not be clamped by the paper clamper 14 (specifically, the printer control unit 115 varies the timing for driving the thick paper 13 toward the paper clamper 14 such that the leading edge of the paper 13 is shifted to the upstream side in the direction X by a pre-selected amount with respect to the paper clamper 14);
>
> (4) when the paper 13 is implemented as a thick paper, the printer control unit 115 controls, in response to the output signal of the photosensor 107, the stepping motor 102 in such a manner as to delay the above paper feed timing, compared to the case with the plain paper 13; and
>
> (5) when the paper 13 is implemented as a thick paper, the print control unit 115 controls the pulse motor 43 of the master making section 37 in such a manner as to delay the position of the thermal head 41 for starting making the master 4 by an amount corresponding to the above delay of the paper feed timing of the stepping motor 102 (col. 11, lines 15 to 49).

That is, Sato discloses varying the feeding time based on the thickness of the paper. Sato, however, fails to teach or suggest correcting the timing for feeding the reverse side of the paper. In other words, Sato does not cure the deficient teachings of Kageyama.

Therefore, "command generating means for generating a feed command for correcting timing of feeding the printing medium when said mode designation receiving means receives the designation of double-side printing mode, for printing a second image that is to be printed later out of a pair of images to be printed on both surfaces of said printing medium," as set forth in

claim 1 is not taught or suggested by the combined teachings of Kageyama and Sato, which lack correcting the feeding timing of the reverse side of the printing medium when double mode printing is designated. For at least these exemplary reasons, Applicant respectfully submits that claim 1 is patentable over the combined teachings of Kageyama and Sato. Applicant respectfully requests the Examiner to withdraw this rejection of claim 1. Claim 40 is patentable at least by virtue of its dependency on claim 1.

In addition, claim 40 recites: "correcting the timing of feeding the printing medium comprises adjusting a timing lag for arriving to a print head of the printing medium having the first image printed on one surface." The Examiner acknowledges that Kageyama does not teach or suggest these recited features of claim 40. The Examiner, however, alleges that Sato cures the deficient teachings of Kageyama (*see* page 6 of the Office Action). Applicant respectfully disagrees. In Sato, there is no disclosure of a double-side printing. Sato only discloses adjusting the feeding time prior to printing. That is, Sato does not teach or suggest varying the feeding time of the printing medium having the first image already printed on one side. For at least this additional reason, Applicant respectfully submit that claim 40 is patentable over Kageyama in view of Sato.

Next, claims 6 and 11 recite features similar to the features argued above with respect to claim 1. Since claims 6 and 11 contain features that are similar to the features argued above with respect to claim 1, those arguments are respectfully submitted to apply with equal force here. For at least substantially the same reasons, therefore, Applicant respectfully requests the

Examiner to withdraw this rejection of independent claims 6 and 11. Claim 41 is patentable at least by virtue of its dependency on claim 6.

Claims 12-20 and 42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kageyama and Sato in view of U.S. Patent No. 6,273,535 to Inoue et al. (hereinafter "Inoue"). Applicant respectfully traverses this rejection in view of the following comments.

Claims 12-20 and 42 depend on claim 11. Applicant has already demonstrated that the combined teachings of Kageyama and Sato do not meet all the requirements of independent claim 11. Inoue is relied upon only for its teaching of detecting information on the quantity of ink (*see* page 6 of the Office Action). Clearly, Inoue does not cure the deficient teachings of Kageyama and Sato. Together, the combined teachings of these references would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 11. Since claims 12-20 and 42 depend on claim 11, they are patentable at least by virtue of their dependency.

In addition, dependent claim 42 recites: "said delaying the start of feeding the printing medium for printing the second image on a reverse side of the printing medium is based on a quantity of ink used in printing the first image on a front side of the printing medium." The Examiner acknowledges that Kageyama and Sato do not teach or suggest these unique features of claim 42. The Examiner alleges that Inoue cures the deficient teachings of Kageyama and Sato (*see* page 8 of the Office Action). Applicant respectfully disagrees.

Inoue only teaches adjusting ink quality and quantity based on the image to be printed (Fig. 5; col. 7, lines 21 to 45). Inoue, however, fails to teach or suggest adjusting the quantity of

ink for the reverse side, the second image, based on the quantity of ink used on the already printed first image. For at least this additional reason, Applicant respectfully submits that claim 42 is patentable over the combined teachings of Kageyama, Sato, and Inoue.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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